

AD-A067 004

FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OHIO  
SUPERSTRUCTURE OF A PREFABRICATED TRACKED BRIDGE, (U)  
JUN 78 A V BELOUSOV, Y L GRAUSMAN  
FTD-ID(RS)T-0917-78

F/6 13/13

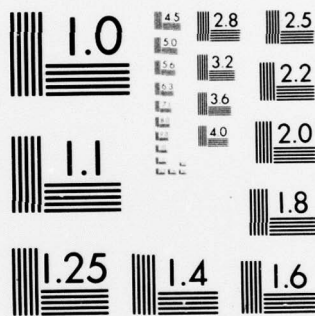
UNCLASSIFIED

NL

1 OF 1  
AD  
A067004



END  
DATE  
FILMED  
6-79  
DDC



# LOAN DOCUMENT TRANSMITTAL

DATE ACCESSIONED 9 APR 1979

REPORT NUMBER

PD-3D (S) T-0917-9P

AD NUMBER

PD-A067004

THE ATTACHED DOCUMENT HAS BEEN LOANED  
TO DDC FOR PROCESSING.

THIS COPY IS NOT TO BE MARKED OR MUTI-  
LATED. REQUEST THAT SPECIAL HANDLING,  
BE PROVIDED IN ORDER THAT THE COPY MAY  
BE PROMPTLY RETURNED TO THE LENDER.

THE REPORT SHOULD BE RETURNED TO

DDC DOCUMENT PROCESSING

DIVISION

/DDA-2  
D. O. PER

ACCESSION FOR	
NTIS GRA	<input type="checkbox"/>
DDC TAB	<input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION _____	
_____	
_____	
BY _____	
DISTRIBUTION/AVAILABILITY CODES	
DIST.	AVAIL. AND/OR SPECIAL

DO NOT PHOTOGRAPH THIS FORM

# LOAN DOCUMENT

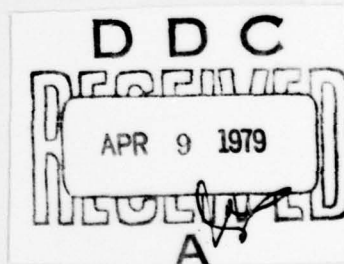
FOREIGN TECHNOLOGY DIVISION



SUPERSTRUCTURE OF A PREFABRICATED TRACKED BRIDGE

By

A. V. Belousov, Yu. L. Grausman et al



Approved for public release;  
distribution unlimited.

78 12 26 258

AD-A067004

# EDITED TRANSLATION

FTD-ID(RS)T-0917-78

22 June 1978

MICROFICHE NR: *FTD-78C-000848*

SUPERSTRUCTURE OF A PREFABRICATED TRACKED BRIDGE

By: A. V. Belousov, Yu. L. Grausman, et al

English pages: 4

Source: USSR Patent nr 339618, 1972, pp. 1-3

Country of Origin: USSR

Translated by: Victor Mesenzeff

Requester: FSTC

Approved for public release;  
distribution unlimited.

ACCLASSION	
RTIS	Write Section <input checked="" type="checkbox"/>
ROC	Write Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	Avail. and/or Special
<b>A</b>	

THIS TRANSLATION IS A RENDITION OF THE ORIGINAL FOREIGN TEXT WITHOUT ANY ANALYTICAL OR EDITORIAL COMMENT. STATEMENTS OR THEORIES ADVOCATED OR IMPLIED ARE THOSE OF THE SOURCE AND DO NOT NECESSARILY REFLECT THE POSITION OR OPINION OF THE FOREIGN TECHNOLOGY DIVISION.

PREPARED BY:

TRANSLATION DIVISION  
FOREIGN TECHNOLOGY DIVISION  
WP.AFB, OHIO.

FTD-ID(RS)T-0917-78

Date 22 June<sup>19</sup> 78



# U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<b><i>А а</i></b>	A, a	Р р	<b><i>Р р</i></b>	R, r
Б б	<b><i>Б б</i></b>	B, b	С с	<b><i>С с</i></b>	S, s
В в	<b><i>В в</i></b>	V, v	Т т	<b><i>Т т</i></b>	T, t
Г г	<b><i>Г г</i></b>	G, g	У у	<b><i>У у</i></b>	U, u
Д д	<b><i>Д д</i></b>	D, d	Ф ф	<b><i>Ф ф</i></b>	F, f
Е е	<b><i>Е е</i></b>	Ye, ye; E, e*	Х х	<b><i>Х х</i></b>	Kh, kh
Ж ж	<b><i>Ж ж</i></b>	Zh, zh	Ц ц	<b><i>Ц ц</i></b>	Ts, ts
З з	<b><i>З з</i></b>	Z, z	Ч ч	<b><i>Ч ч</i></b>	Ch, ch
И и	<b><i>И и</i></b>	I, i	Ш ш	<b><i>Ш ш</i></b>	Sh, sh
Й й	<b><i>Й й</i></b>	Y, y	Щ щ	<b><i>Щ щ</i></b>	Shch, shch
К к	<b><i>К к</i></b>	K, k	Ъ ъ	<b><i>Ъ ъ</i></b>	"
Л л	<b><i>Л л</i></b>	L, l	Ы ы	<b><i>Ы ы</i></b>	Y, y
М м	<b><i>М м</i></b>	M, m	Ь ь	<b><i>Ь ь</i></b>	'
Н н	<b><i>Н н</i></b>	N, n	Э э	<b><i>Э э</i></b>	E, e
О о	<b><i>О о</i></b>	O, o	Ю ю	<b><i>Ю ю</i></b>	Yu, yu
П п	<b><i>П п</i></b>	P, p	Я я	<b><i>Я я</i></b>	Ya, ya

\*ye initially, after vowels, and after ъ, ь; e elsewhere.  
When written as ë in Russian, transliterate as yë or ë.

## RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh <sup>-1</sup>
cos	cos	ch	cosh	arc ch	cosh <sup>-1</sup>
tg	tan	th	tanh	arc th	tanh <sup>-1</sup>
ctg	cot	cth	coth	arc cth	coth <sup>-1</sup>
sec	sec	sch	sech	arc sch	sech <sup>-1</sup>
cosec	csc	csch	csch	arc csch	csch <sup>-1</sup>

Russian      English

rot      curl  
lg      log

## SUPERSTRUCTURE OF A PREFABRICATED TRACKED BRIDGE

A. V. Belousov, Yu. L. Grausman,  
A. S. Kriksunov, V. V. Timofeyev,  
I. A. Chechin, and A. M. Sherstennikov.

This invention pertains to bridge-building.

There is a known superstructure of a prefabricated bridge which includes treads which are joined to one another by horizontal spacers.

The drawback of this superstructure is that the treads cannot be displaced mutually along the vertical.

The purpose of this invention is to provide a possibility of mutual displacement of the treads along the vertical.

For this the spacers are made telescopic and are hinge-connected to the treads by means of shoes which have a trapezoidal longitudinal cross section and which are connected to the torsion bars which are twisted, beforehand, in opposite directions.

Figure 1 shows the proposed bridge superstructure; Fig. 2 shows the same, cross section along A-A and B-B in Fig. 1; Fig. 3 shows the same, junction 1 in Fig. 1.

The bridge superstructure includes treads 1 and horizontal spacers 2. The horizontal spacers are assembled between the treads of the superstructure in two cross sections along the length of the span. The upper spacer is in the form of a tube in the middle section, whose ends enter shoes 3, which have a trapezoidal longitudinal section in the planform and which are hinge-connected with

their broad side to the junctions on the inner walls of the treads of the superstructure by means of lugs 4. This makes it possible for the tread to move vertically without allowing a longitudinal displacement. Furthermore, the spacer has the capability for a certain amount of twisting in the shoes, depending on the conditions of resting of the ends of the treads on the ground and also it allows the displacement of the tread along the width when necessary. The lower spacer 5 has a telescopic construction and is of the same length as the upper spacer, forming a hinged rectangle, as a result of which, with the mutual displacement of the treads along the vertical their surfaces remain parallel to one another. In order to straighten the treads, torsion bars 6, which are twisted beforehand in the opposite directions, are mounted along the axes of the shoe lugs of the upper spacers connected to them. Stops 7 are provided for fixing the position of the upper spacer relative to the shoes. If the construction of a bridgelaying requires that the distance between the treads be strictly adhered to, for example with a telescopic system of bridging, additional spacers 8 can be attached to the ends of the treads. This is necessary especially with a folding superstructure, due to the clearances in the middle joints 9 the distance between the treads at their ends can vary. Furthermore, when necessary, the length of the spacers can be regulated. The approximate calculations have shown that the proposed construction of the inter-tread connections provides for the entering of the superstructure into the shape of the banks.

#### *Object of the invention*

The superstructure of the prefabricated tracked bridge, which includes treads connected by horizontal spacers to one another, is distinguished by the fact that, in order to provide the possibility of mutual displacement of the treads along the vertical, the spacers have a telescopic construction and are hinged to the treads by means of shoes which have a trapezoidal longitudinal cross section and which are joined with torsion bars which are pretwisted in the opposite directions.



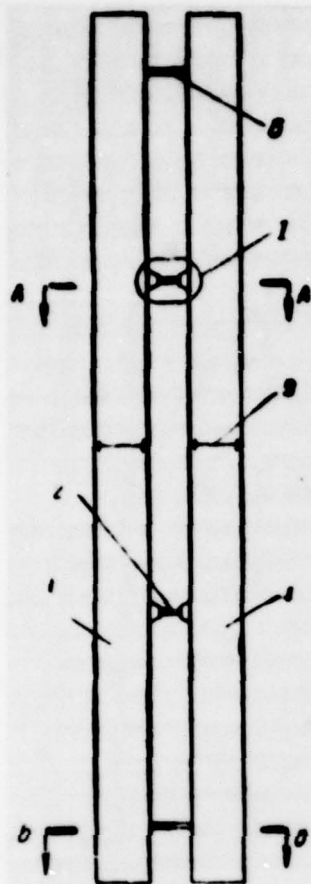


Fig. 1.

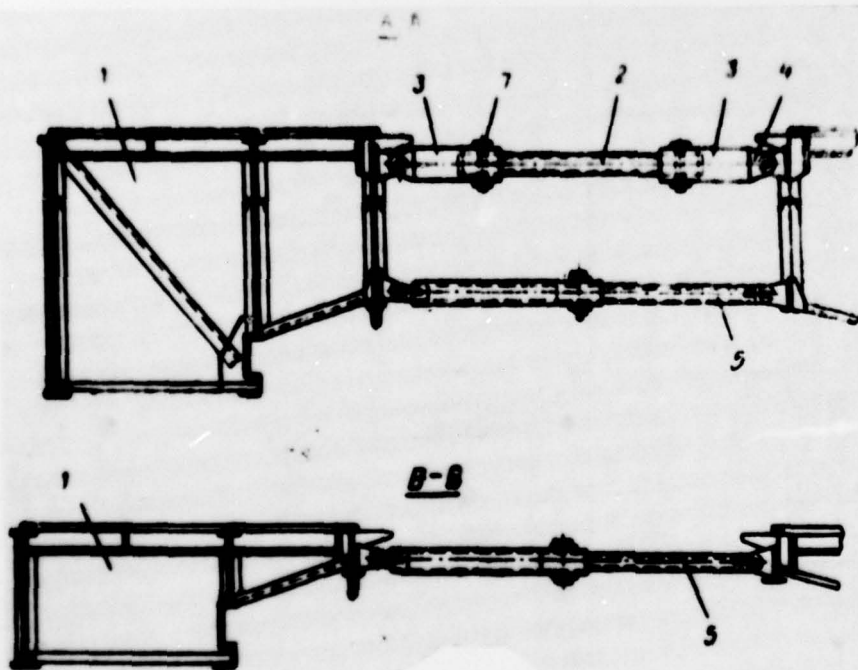


Fig. 2.

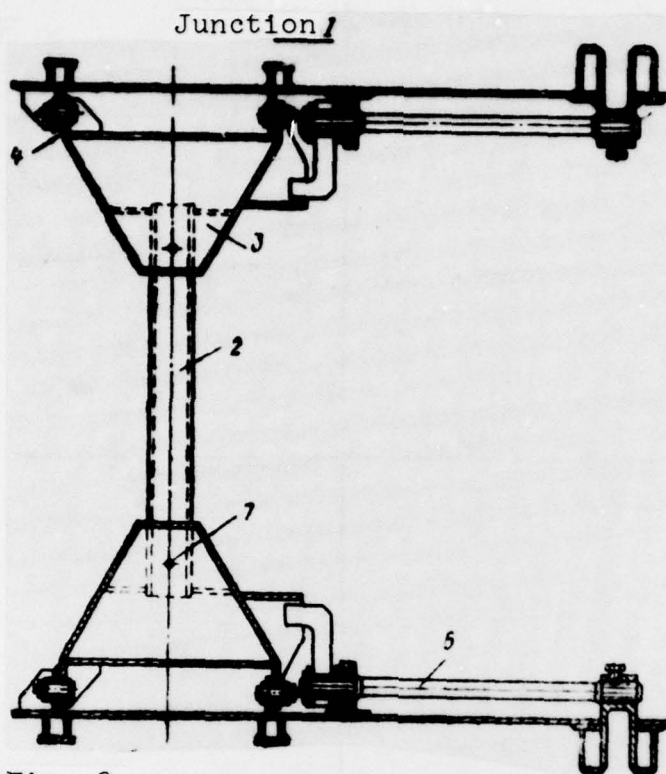


Fig. 3.

# DISTRIBUTION LIST

## DISTRIBUTION DIRECT TO RECIPIENT

<u>ORGANIZATION</u>	<u>MICROFICHE</u>	<u>ORGANIZATION</u>	<u>MICROFICHE</u>
A205 DMATC	1	E053 AF/INAKA	1
A210 DMAAC	2	E017 AF/RDXTR-W	1
B344 DIA/RDS-3C	8	E403 AFSC/INA	1
C043 USAMIIA	1	E404 AEDC	1
C509 BALLISTIC RES LABS	1	E408 AFWL	1
C510 AIR MOBILITY R&D	1	E410 ADTC	1
LAB/FIO		E413 ESD	2
C513 PICATINNY ARSENAL	1	FTD	
C535 AVIATION SYS COMD	1	CCN	1
C591 FSTC	5	ASD/FTD/NICD	3
C619 MIA REDSTONE	1	NIA/PHS	1
D008 NISC	1	NICD	2
H300 USAICE (USAREUR)	1		
P005 ERDA	1		
P005 CIA/CRS/ADB/SD	1		
NAVORDSTA (50L)	1		
NASA/KSI	1		
AFIT/LD	1		

FTD-ID(RS)T-0917-78